

Home Reading.

Drinking Water.

We reprint from the *Granite State Free Press*, Lebanon, N. H., a few extracts from an article contributed to that paper by the Rev. C. A. Downs, formerly State Mineralogist and Chemist for New Hampshire. The extracts are full of sound, wholesome truth, and the deductions applicable to any thickly settled village:

"About eighty per cent. of human blood is water. The blood in its course visits every part of the body, all the great vital organs, the delicate cells of the brain and nerves, leaving no point untouched. As it goes to each organ and particle of the body it bears nourishment to supply the waste of bodily and mental action. Beyond these simple statements no arguments are needed to show the necessity of supplying to the system pure water. Water is not only a necessity to the continuance of life, but its purity is essential to health and the highest efficiency. Contaminated water may produce directly well-marked disease; in other cases it may only lower the vital tone. There is no sickness, perhaps, neither is there any vigor and energy—but in their stead weakness, depression, both physical and mental. The impurities of the water are acting as a slow, secret poison to the fountains of strength and vigor.

The popular belief is that water is purified by passing through the soil, the earth acting as a filter to the impurities. This is true to a certain extent. Foul water poured upon the surface of the earth will have parted with most of the grosser contamination by the time it has reached a depth of ten or fifteen feet. The soil, acting as a strainer, will catch mechanically the large particles of filth, but will still permit those in a finely divided state to pass on. A liquid may be perfectly clear to the eye, not the smallest particle can be seen, and yet it may contain, in solution, a large amount of foreign matter. The clearness of water is not a sure proof of its purity.

While the soil has power to purify foul water to a large extent, yet after a time it loses that power. As first it detains the impurities mechanically, but these impurities increase as the filthy water continues to enter the soil till it becomes saturated with them, and will no longer retain them. Moreover, this filth, so deposited, begins to decompose, and water passing through these saturated strata, instead of being purified, acquires an additional foulness beyond that with which it entered the soil, so that the agent relied upon for protection becomes the source of danger.

Another source of water contamination has generally escaped notice and consideration. The foul water from many sources poured upon the soil deposits its filth; this decomposes and sets free noxious gases which traverse the pores of the soil in every direction. These gases mingle with the purer water of the soil and become a source of contamination.

Who has not heard this? "This well when I first dug it furnished water as soft as rain-water, and of late years it has become hard and is no longer fit to wash with." Why should this be? The water was soft to begin with, but the soil has been receiving for years the wash from sink, privies, and stables; what wonder if the salts which this befouled waste carried have finally found their way to the well and changed the soft water to hard? The growing hardness of the water is, in fact, a danger signal, declaring growing contamination. The hardness which prevents the use of the water for washing, should much more warn against its use for drinking.

For a time the soil will be kind and detain the filth poured into it and the water will retain its purity. But the time will inevitably come when the kind soil will be inadequate to the task imposed upon it. It can do much in this direction. It can detain tons of filth from mingling with the water, but it cannot detain thousands poured in yearly increasing quantities upon it. It must at last be wearied, and become itself a source of water pollution. It is impossible to be otherwise unless the stable, privy laws be annulled and inevitable consequences divorced from their efficient causes. Sooner or later the water supply derived from wells must be contaminated.

There are two or three matters which ought to receive some notice. One of them is the fallacy of any general rule as to the distances at which wells may be located from sources of contamination and be safe. Every now and then rules are given that wells can be safe if located from forty to fifty feet from drains, privies, or stables. I found one well which showed most palpable signs of contamination which was more than double this distance from the manifest source of filth. Contamination, under certain circumstances, may spread hundreds of feet through the soil. No safe rule as to such distances can be given. The only sure way is to examine the water in the well directly. We cannot see through the soil and discern what hidden and devious channels the water may have. It is the only way to prove unexpected wells, to afford the best water, should be as deep as possible—they should be tight from top to bottom, only allowing the water to come in at the bottom. The advantage of this form of well is that the soil is made to filtrate the water to the greatest extent, or in the popular phrase, "surface water" is excluded.

The question arises, What is to be done, under existing circumstances, to secure pure water for drinking and domestic purposes? Two courses of action are open. The first may be called corrective. As the contamination of our wells arises from filth thrown upon the soil from houses and stables, a rigid system of sewage would be a more or less effective correction. All liquids from houses should find their way into water-tight conduits and be carried away, and not be allowed to come in contact with the soil. All privy vaults and all receptacles for manure should be tight at bottoms and sides, so as to prevent any possibility of their contents finding their way into the soil. This course would do much to prevent contamination of wells, but only for the somewhat distant future. The soil is already saturated with filth, and much time must elapse before it is exhausted. This system is further defective in this, that it will not prevent the contamination which must come from the use of manure upon gardens and other cultivated land.

The second and best course to pursue is to take water from outside of the village from the purest sources accessible. Springs located outside of cultivated lands afford the best water for domestic purposes, and should have the preference.

The Law and the Water Contract.

The following is the full text of the law under which the Township Committee has the authority to make a contract with the Orange Water Company for the laying of mains and hydrants. We also publish the form of the contract made by the Water Company with the Township of East Orange, which is to be the basis of the contract with Bloomfield.

THE LAW.

Art. 1. To authorize municipal corporations to contract for a supply of water for public uses.

1. Be it enacted by the Senate and General Assembly of the State of New Jersey, That it shall be lawful for the city council, township committee, or other governing body of any municipal corporation in this State, by whatever name such governing body may be called, to enter into and make a contract and agreement with any existing aqueduct board or water company for a year or term of years, for the obtaining and furnishing of a supply of water to be used by and within such municipal corporation for the purpose of extinguishing fires, and for such other public uses and purposes as may be found necessary or convenient; which contract and agreement, when so made, shall be the valid and lawful contract of such municipal corporation, as well as of the said aqueduct board or water company, according to the tenor thereof; and the sum or sums of money in such contract, agreed to be paid in each year by any such municipal corporation, shall be levied and assessed as a tax upon the real and personal estate within such municipal corporation, and liable to taxation for other municipal purposes, and the said real estate and personal property is hereby made liable to the assessment and collection of such tax; provided, however, and it is hereby expressly enacted, that no such agreement and contract shall be made for a period longer than ten years in any one term, and that the amount of payment in such contract agreed to be made in any year by any municipal corporation, shall not exceed a sum equal to one dollar for each inhabitant of such municipal corporation, unless the proposition be approved by a majority of the legal voters in such municipal corporation at an annual or special election, to which the same may be submitted.

2. And be it enacted, That this act shall take effect immediately.

Approved March 13, 1881.

WATER CONTRACT.

It is hereby agreed between "The Inhabitants of the Township of East Orange, in the County of Essex," and "The Orange Water Company," a corporation organized under an Act of the Legislature of the State of New Jersey, as follows:

SECTION I. The said Company shall lay not less than — miles of pipe through such streets of said township as may be designated by the Township Committee, and shall furnish and put up ready for use double-nozzled fire hydrants of the standard size and most approved construction, and lay pipes connecting the same with the mains of the Company, maintain them in good working order and condition, and keep them supplied with water at a head pressure at the pumping works equal to an elevation of three hundred feet above tide water.

Sec. II. The said Company shall place on the said first — miles of pipe line hydrants at an average of not over four hundred and twenty-two feet apart, at such points and places along the line of said pipes, at the average distance aforesaid, as may be designated by the Township Committee; and the said Township shall accept and pay for supplying the same with water at the price hereinafter agreed on.

Sec. III. The said Company shall lay additional pipes from time to time as may be hereinafter agreed on, along which fire hydrants may be placed at such points and places as may be from time to time agreed on between the Township Committee and the Water Company.

Sec. IV. The compensation to be made by said Township to said Company for providing and furnishing a full supply of water in the said hydrants for the purpose of the extinguishment of fires, shall be sixty dollars per hydrant per annum, which shall be paid semi-annually as hereinafter provided.

Sec. V. The said Company shall present its accounts for the compensation aforesaid on or before the first day of January and July of each year, and the same shall be paid on or before the first day of February and August following. All hydrants which have not been completed and ready for use, and the water let on during the entire year, shall be paid for ratably for the time they have been ready for use as aforesaid. The time of computing compensation for each hydrant shall commence as soon as water can be delivered from it; and if the Water Company shall fail to supply any hydrant with water of the force and quantity herein agreed (except in case of accident or for necessary repairs not exceeding thirty days in any one year), in that case no compensation shall be allowed for such hydrant for the time during which such defective flow continues; but a pro rata deduction shall be made which shall in no case be at a rate greater than sixty dollars per annum per hydrant. But if the flow of water from any hydrant shall be interrupted or impeded from any cause for which the township authorities are responsible, no deduction shall be made or claimed by the Township on account of the want of a full supply from such hydrant.

Sec. VI. If the Township Committee shall direct any hydrant once located as aforesaid to be changed, the same shall be done at the expense of the Township.

Sec. VII. Said hydrants shall always be accessible to the fire department, fire engines, and hose companies of said Township, for the purpose of the extinguishing of fires and for reasonable practice and clearing apparatus, and to officers authorized by the Township Committee for examination.

Sec. VIII. The Township Committee and their servants shall at all times exercise due caution and care in opening, closing, and using said hydrants, and in the use of water; and any damage done to the hydrants during the use thereof by the Township Committee, their servants, or employees, beyond reasonable wear and tear, shall be made good at the expense of the Township; and any unnecessary waste of water by said servants or employees shall be paid for at the usual rates.

Sec. IX. It is further agreed that water for the sprinkling of streets as hereinafter specified, and for the use of the Township Committee rooms, tax office, fire engines, hose companies,

houses, school houses, and police offices, and any other buildings used by the Township for public purposes, on the line of said mains, shall be furnished under the same regulations and control as those established by the Company for similar use by other consumers, for a sum each year equal to the amount of taxes, if any, on the pipes and hydrants of said Company necessary and proper to their business, and their franchises in said Township; but the cost of making all such connections with the mains and of keeping them in repair shall be borne by the Township.

Sec. X. It is further agreed that the said Company will furnish the Township with water for sprinkling streets, to water-carts licensed or authorized by the Township Committee, to such an extent as the Township think it prudent considering their obligations to their customers and the supply of water; provided, however, that the carts shall take it at such places as the Company designate and under such regulations as they may make from time to time; the Company reserving the right to refuse water to any person who is found to disobey their regulations, or who shall use the water for other purposes than street sprinkling, or use it in a wasteful manner.

Sec. XI. It is further agreed that said Company will furnish the inhabitants of said township, on the line of streets in which pipes are laid, with water for private use, at rates not exceeding those charged by the city of Newark, New Jersey, for similar use; the use of water to be subject to such rules and regulations as the Company may adopt from time to time, which will be on the same general basis as those of the city of Newark; the cost of connection with the mains to be paid, in each case, by the person using the water.

Sec. XII. It is further understood and agreed that the said Company shall with due diligence and within a reasonable time proceed with its work of introducing water into said Township, and shall complete the same within one year from the — day of —, A. D. eighteen hundred and eighty—. It is also understood and agreed that said Company do not waive any rights which they may possess under their charter, by reason of any of the provisions aforesaid herein.

Sec. XIII. This contract shall be valid and binding for the period of ten years from the first day of —, A. D. eighteen hundred and eighty—, and said Company agree that at the expiration of said term they will renew the same for a further term of ten years, on terms as favorable to the Township as those of this contract.

Sec. XIV. This contract is made in pursuance of an Act of the Legislature of New Jersey, entitled "An Act to authorize municipal corporations to contract for a supply of water for public uses," approved March fifteenth, eighteen hundred and eighty—.

In witness whereof, the Township Committee of said Township of East Orange have caused the Common Seal of said Municipal Corporation to be hereto affixed, and this contract to be signed by their Chairman and the Township Clerk.

And the said Orange Water Company have caused their Common Seal to be hereto affixed, and this contract to be signed by their President and Secretary, on this — day of —, A. D. eighteen hundred and eighty—.

A Matter of Sense.

Little Tommy was entertaining one of his sister's callers until she appeared.

"Don't you come to see my sister?" he inquired.

"Yes, Tommy, that's what I come for."

"You like her a good deal, don't you?"

"Of course, I admire her very much. Don't you think she is nice?"

"Well, I reckon I have to, cause she's my sister, but she thumps me pretty tough sometimes. But say, let me see your open your mouth once. Now shut it real tight till I count ten. There, I knowed you could do it."

"Why, Tommy, who said I couldn't?"

"Oh, nobody much, but sister."

"What did she say?"

"Well, she said you hadn't sense enough to keep your mouth shut, and bet her two big oranges you had; and you have, ain't you, and you'll make her duff up the oranges, won't you?"

The young man didn't wait to see whether she would "duff up" or not.

Claimed an Offset.

THE Poughkeepsie Eagle says a "hired man" who had been employed on a farm in that county for several months entered suit against his employer the other day for the balance of wages, amounting, as he claimed, to thirty dollars.

The suit came to trial and it looked at first as if the plaintiff had a clear case. He gave dates and figures in a straightforward way, and seemed a very honest man. When the farmer took the stand, he said:

"I claim an offset for that thirty-dollar bill. No man need sue me for what I honestly owe."

"What is your offset?" asked the lawyer.

"He is an unbeliever."

"In what?"

"Why, in the Bible."

"What has that to do with your owing him thirty dollars?"

"It has a heap to do with it. I had six hands in my employ, and we were rushing things when I hired this man. He hadn't been with us two days when they stopped the reaper in the middle of the forenoon to dispute about Daniel in the lion's den, and in three days we had a regular knock-down over the whale swallowing Jonah. The man who ran the mower got arguing about Samson, and drove over a stump and damaged the machine to the tune of eighteen dollars, and the very next day my boy broke his leg while climbing a fence to hear and see the row which was started over the children of Israel going through the Red Sea. It wasn't a week before my wife said she didn't believe Elijah was fished by ravens, and hanged me if I didn't find myself growing weak on Noah and his flood. Then my offset, sir, and if he was worth anything I'd sue him for a thousand dollars besides."

The court reserved decision.

"Ah, I have an impression!" exclaimed Dr. McCosh, the President of Princeton College, to the mental philosophy class. "Now, young gentlemen, can you tell me what an impression is?"

No answer.

"What! no one knows? No one can tell me what an impression is?" exclaimed the Doctor, looking up and down the class.

"I know," said Mr. Arthur. "An impression is a dent in a soft place."

"Young gentlemen," said the Doctor, growing red in the face, "you are excused for the day." — *New York Star.*

Humor.

HERR BRETEL (who has just had a telephone put up, calls for the repairer next day): "Look-a-here, my vrent, didn't you dote me dot dellervone shbeak Cherman unt converse in Cherman?"

Repairer: "Yes, sir."

Herr B.: "Vell! py chiminetty, I talk Cherman to dot dellervone yesterday, mit boldness, unt py unt py it say. 'Hello, phawt air ye jabberin? Come off, ye guld Dutchy!' I tond't allow no dellervone to sass me dot vay. Donnerhimmel! Dake id away!"

Old St. was asked by one of our merchants: "Si do you know a ducky by the name of Davis?" "Sissero Davis wid de red eye dat got burned in de powder explosion?" "Yes, he's the man." "Well, I kno him." "Is he reliable?" "Ginfull, but it pends moughty on de bizness dat he's gaged in at de time." "What business would he suit best in as a porter?" "Well, ter tell ye de flat-footed, unsophisticated trufe, dar's one place whar dat tigger could wuck an be ez hones ez de day—an dat a'ez porter in er real-state sto'! In dat case de 'ner ud be liable ter fine de property allus jess whar he lef hit!" The gentleman named Davis was not engaged. — *Georgia Major.*

LEGAL NOTICE.

ESSEX COUNTY CIRCUIT COURT.—Between Mary A. Cuff, Compt. and Bridget Broderick et al., Defts.—One Bill, etc. It appearing to the court that Thomas Broderick, the mortgagee in the bill of complaint in this cause mentioned is dead, and that Hannah Cusick and George Saunders are the only persons residing in said Thomas Broderick of whom the complainant has been able to get any information, and that said other heirs or devisees, any he have, are wholly unknown;

It is on this sixteenth day of June, eighteen hundred and eighty-three, on motion of Cuff and Howell, of counsel with the Complainant, ordered, That the unknown owners of all that certain tract of land of high and broad Broderick late of the Township of Bloomfield, in the County of Essex, and State of New Jersey, dead, seized, situate lying and being on the west side of Walnut Street in the said Township of Bloomfield, bounded on the north by land of William Brookes, on the east by Walnut Street, on the south by lands of Michael Owens, and on the west by lands of Frank Moran, do appear, plead, answer or demur to the complainant's bill on or before the seventeenth day of December next or that, in default thereof, said decree be made against them as the court shall think equitable and just.

And it is further ordered that this order shall within twenty days hereafter be published in The Essex Standard, a newspaper printed at Bloomfield in this State, and continued therein at least once a week to within ten days of the expiration of the time herein limited for pleading, answering or demurring, and that within the same time a copy thereof be sent by mail with the postage prepaid to the said Hannah Cusick and George Saunders, directed to their post office address, if the same can be ascertained.

DAVID A. DEPUCE, Judge.

TIME TABLES.

Carefully corrected up to date.

DEL. LACK & WESTERN RAILROAD. Barclay and Christopher Street Ferries.

TO NEW YORK.

Leave Montclair—6:30, 7:15, 7:55, 8:47, 9:32, 11:00 a.m. 12:30, 1:40, 3:40, 5:00, 6:10, 6:55, 8:15, 9:40, 11:05, 12:35 p.m.

Leave Bloomfield—6:08, 7:19, 7:59, 8:51, 9:57, 11:05 a.m. 12:35, 1:45, 3:45, 5:05, 6:15, 7:05, 8:20, 9:45, 11:10, 12:40 p.m.

Arrive Newark—6:23, 7:30, 8:10, 9:03, 10:08, 11:18 a.m. 1:08, 1:58, 3:57, 5:17, 6:38, 7:50, 8:37, 10:08, 11:22, 12:51 p.m.

Arrive New York—6:30, 8:40, 9:40, 9:50, 10:40, 11:50 a.m. 1:40, 2:50, 4:40, 5:50, 7:10, 7:55, 9:10, 10:40, 11:50 p.m.

FROM NEW YORK.

Leave New York—6:30, 7:40, 8:40, 9:40, 10:40, 11:50 a.m. 1:40, 2:50, 4:40, 5:50, 7:10, 7:55, 9:10, 10:40, 11:50 p.m.

Leave Newark—6:40, 7:50, 8:50, 9:50, 10:50, 11:50 a.m. 1:50, 3:00, 4:00, 5:00, 6:00, 7:00, 8:00, 9:00, 10:00, 11:00 p.m.

Arrive Bloomfield—6:51, 7:51, 8:51, 9:51, 10:51, 11:51 a.m. 1:51, 3:01, 4:01, 5:01, 6:01, 7:01, 8:01, 9:01, 10:01, 11:01 p.m.

Arrive Montclair—6:58, 7:58, 8:58, 9:58, 10:58, 11:58 a.m. 1:58, 3:08, 4:08, 5:08, 6:08, 7:08, 8:08, 9:08, 10:08, 11:08 p.m.

May 14, 1883.

NEW YORK AND GREENWOOD LAKE R.R. Chambers and 53d Street Ferries, New York.

TO NEW YORK.

Leave Upper Montclair—5:28, 6:57, 7:49, 8:48, 10:47 a.m. 1:28, 4:45, 5:16, 6:50, 9:58 p.m.

Leave Montclair—5:38, 7:05, 7:55, 8:53, 10:52 a.m. 1:38, 4:55, 5:26, 7:00, 10:08 p.m.

Leave Bloomfield—5:38, 7:05, 7:55, 8:53, 10:52 a.m. 1:40, 4:54, 5:20, 6:58, 10:08 p.m.

Arrive New York—6:25, 7:50, 8:40, 9:40, 11:40 a.m. 1:25, 4:40, 5:10, 6:55, 10:05 p.m.

Trains marked * will run on Saturdays only.

Sunday trains from Montclair at 8:04 a.m. and 7:00 p.m.

FROM NEW YORK.

Leave New York—6:00, 8:30, 12:00 a.m. 3:40, 4:40, 6:00, 8:20, 8:50 p.m.

Arrive Bloomfield—6:49, 9:21 a.m. 12:12, 4:19, 5:21, 6:20, 7:05, 8:39 p.m.

Arrive Montclair—7:02, 9:25 a.m. 12:49, 4:24, 5:26, 6:20, 7:14, 8:48 p.m.

Arrive Upper Montclair—7:06, 9:29 a.m. 12:53, 4:28, 5:30, 6:31, 7:16, 8:50 p.m.

Also a Saturday train from New York at 12 m., for the accommodation of theatre-goers, arriving at Montclair at 1:32 a.m.

Sunday trains from New York at 8:45 a.m. and 8:00 p.m.

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